

Installation Instructions

For FITOK Tube Fittings Over 1 in. or 25 mm O.D.

Steps:

1. Preset the ferrules onto the tubing using the FITOK Hydraulic Presetting Tool (HPT) referring to the HPT Instructions.
2. Apply the enclosed lubricant sparingly to the thread of FITOK tube fitting body and the rear surface of the rear ferrule.
3. Install the preset assembly (tubing, nut, front and rear ferrules) into the fitting body. Finger tight the nut. Further tighten the nut 1/2 turn with a wrench while holding the fitting body steady.



Instructional Video

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Installation Instructions

For FITOK Tube Fittings up to 1 in. (25mm) O.D.

■ Initial Installation

1. Insert the tube into the tube fitting. Make sure the tubing rests firmly on the shoulder of the fitting body. Finger tight the nut. (Fig. 1)

For High-Pressure Applications and High Safety-Factor Systems:
Installation should begin from a snug position, which is achieved by wrench tightening the nut further after finger tightening it until the inserted tubing cannot be turned by hand or moved axially in the fitting.

2. Mark the nut at 6 o'clock position. (Fig. 2)
3. For tube fittings below or equal to 3/16" (4mm) O.D., tighten the nut 3/4 turn to 3 o'clock position, while holding the fitting body steady. For tube fittings above 3/16" (4mm) O.D., tighten the nut with 1-1/4 turns to 9 o'clock position. (Fig. 3)

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■ Gaugeability

For initial installation, the FITOK Gap Inspection Gauge helps to judge whether the fitting has been sufficiently tightened by trying to enter the FITOK gap inspection gauge into the gap between the nut and body. (Fig. 4)

- ☉ If the gauge could not enter the gap, the fitting is sufficiently tightened.
- ☉ If the gauge enters into the gap, additional tightening is required.

■ Reassembly

The FITOK tube fittings can be disassembled and reassembled for multiple times. Prior to disassembly, make sure to mark a straight line along the tubing, the nut and the fitting body to ensure the reassembled fittings are properly tightened. (Fig. 5)

1. Insert tubing with the preset ferrules into the fitting body until the front ferrule seats.
2. While holding the fitting body steady, rotate the nut with a wrench back to the original position as indicated by the marks on the tubing and the fitting body. At this point, there shall be a significant increase in resistance. (Fig. 6)
3. Tighten the nut slightly further with a wrench so as to complete the reassembly.

▲ **The FITOK Gap Inspection Gauge is not applicable to reassembled fittings.**



Fig. 1

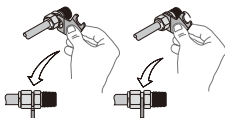


Fig. 4

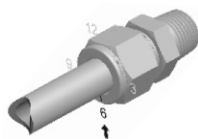


Fig. 2

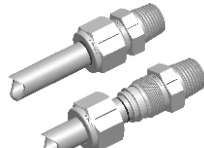


Fig. 5

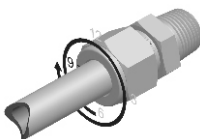


Fig. 3



Fig. 6

■ Presetter Tool

1. Install the nut and ferrules onto the presetter tool.
2. Insert tubing into the presetter tool, make sure the tube rests firmly on the shoulder of the presetter tool, then rotate the nut finger-tight.
3. Assemble the fitting as per installation instructions. Fig. 7.
4. Mark the tubing at the back of the nut before disassembling the fitting.
5. Loosen the nut and insert the tubing with preset ferrules into the fitting body until the front ferrule seats against the fitting body.
6. Hold the fitting body steady, then rotate the nut with a wrench to the previous tightening position as indicated by the mark on the tubing.
7. When you feel a significant increase in resistance, further tighten the nut slightly.

■ Plugs and Port Connectors

1. While holding the fitting body steady, tighten the plug and the machined ferrule end of port connector one-quarter turn from the finger-tight position. Fig. 9 & Fig. 10.
For 1/16, 1/8, and 3/16 in.; 2, 3, and 4 mm tube fittings, tighten the plug and the machined ferrule end of port connector one-eighth turn. For over 1 in. and over 25 mm tube fittings, tighten the plug and the machined ferrule end of port connector one-quarter turn.
2. For the tube adapter end of port connector, assemble as per installation instructions. Fig. 11.

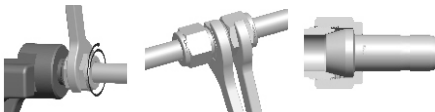


Fig. 7



Fig. 8

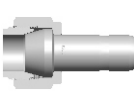


Fig. 10



Fig. 9

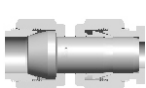


Fig. 11

■ Reassembly of Plugs and Port Connectors

1. Make subsequent connections by slightly tightening with a wrench after snugging the nut by hand.
2. For the tube adapter end of port connector, reassemble as stated in the reassembly instructions.

Over 1 in. (25 mm) sizes require use of a hydraulic presetting unit to preset the ferrules onto the tubing.

▲ Safety Precautions

1. Do not assemble and tighten fittings when system is pressurized.
2. Do not bleed system by loosening fitting nut or fitting plug.
3. Make sure that the tubing rests firmly on the shoulder of the tube fitting body before tightening the nut.
4. Always use proper thread sealants or lubricants on tapered pipe thread.

5. Never turn fitting body. Instead, hold the body and turn the nut.
6. Metal tubing material should be softer than fitting material.
7. When tubing and fittings are made of the same material, tubing must be fully annealed.
8. Extremes of wall thickness should always be checked against the suggested minimum and maximum wall thickness limitations.
9. Always leave enough length of straight tube between the tube bend and the fitting.
10. Always use an insert with extremely soft or pliable plastic tubing.
11. Surface finish is very important to proper sealing, particularly in gas service.
12. Tubing that is oval and will not easily fit through fitting nuts, ferrules, and bodies should never be forced into the fitting.

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